

## CLAIMS

What is claimed as being new and desired to be protected by LETTERS PATENT of the United States is as follows:

1. A motor stator and heat sink system for facilitating the manufacture and use of electrical components through tailored stacking and cooling comprising, in combination:

a plurality of similarly configured thin plates fabricated of an electrically conductive material, each plate having an essentially circular imperforate exterior peripheral ring with an exterior diameter and an essentially circular interior opening with a plurality of radial legs extending inwardly from the peripheral ring at symmetrically spaced locations and terminating at the interior opening, the legs having parallel, essentially radial, edges along the majority of their lengths with enlargements adjacent to the interior opening, small spaces between the enlargements adjacent to the opening and wedge shaped spaces between the legs along the majority of their extents, the radius of the interior opening being less than the radial dimension of the legs and the radial dimension of the ring being less than the radius of the interior opening;

a plurality of similarly configured thin fins fabricated of an electrically conductive material, each fin having an essentially circular exterior peripheral ring with an exterior diameter and an essentially circular interior opening with a

plurality of radial legs extending inwardly from the peripheral ring at symmetrically spaced locations and terminating at the interior opening, the legs having parallel, essentially radial, edges along the majority of their lengths with enlargements adjacent to the interior opening, small spaces between the enlargements adjacent to the opening and wedge shaped spaces between the legs along the majority of their extents, the radius of the interior opening being less than the radial dimension of the legs and the radial dimension of the ring being greater than the radial dimension of the legs, the fins being similarly configured to the plates except for the radial extent of the rings;

a plurality of plates in stacks with their rings and openings and spaces in alignment and a plurality of fins, each fin being located between a stack of plates, the rings and openings and spaces of the fins being in alignment with the rings and openings and spaces of the plates; and

a layer of an adhesive covering the plates and fins.

2. A motor stator and heat sink system:

a plurality of similarly configured plates having an essentially circular exterior peripheral ring with an exterior diameter and an essentially circular interior opening with a plurality of radial legs extending inwardly from the ring; and

a plurality of similarly configured thin fins having an essentially circular exterior peripheral ring with an exterior diameter and an essentially circular interior opening with a plurality of radial legs extending inwardly from the ring, the exterior diameter of the fins being greater than the exterior diameter of the plates;

the plurality of plates in stacks with their rings and openings and spaces in alignment and a plurality of fins, each fin being located between a stack of plates, the rings and openings and spaces of the fins being in alignment with the rings and openings and spaces of the plates.

3. The system as set forth in claim 2 and further including a coupling assembly including a plurality of symmetrically spaced apertures in the ring of each fin, the apertures being in axial alignment and located radially exterior of the rings of the plates.

4. The system as set forth in claim 2 and further including a layer of an adhesive covering the plates and fins.